

## DISCIPLINE SHEET

### Academic year 2025-2026

#### 1. About the program

1.1 Higher education institution	University of Bucharest
1.2 Faculty	Faculty of Interdisciplinary Studies
1.3 Department	Interdisciplinary School of Doctoral Studies – ISDS-UB
1.4 Field of study	-
1.5 Study cycle	Doctorate
1.6 Study program / Qualification	<i>Broad Interdisciplinarity/ Mind, Language and Cognition</i>

#### 2. About the discipline

2.1 Name of the discipline		<i>ANALIZA DATELOR STATISTICE/ STATISTICAL DATA ANALYSIS</i>					
2.2 Holder of the course		Professor PhD Elena Druică					
2.3 Holder of the seminar		-					
2.4 Study year	I	2.5 Semester	II	2.6 Evaluation type	V	2.7 Discipline regime	Mandatory

#### 3. Total estimated time

3.1 Number of weekly hours	-	3.2 out of which course:	-	3.3 seminar/laboratory	-
3.4 Total hours in the curriculum	24	3.5 out of which course:	24	3.6 seminar/laboratory	-
<b>Distribution of time:</b>					<b>hours</b>
Study according to the textbook, course material, bibliography and notes					40
Additional documentation in the library, on specialized electronic platforms and in the field					30
Preparation of seminars/laboratory, assignments, papers, portfolios and essays					40
Tutoring					4
Examinations					12
Others.....					-
3.7. Total hours of individual study	126				
3.8. Total hours per semester	150				
3.9. Number of credits	6				

#### 4. Preconditions (where applicable)

4.1 curriculum	The content is intended as stand-alone. However, prior knowledge of basic statistics may help students better relate with the subject.
4.2 skills	Basic knowledge of statistical software may be helpful, although not required.

#### 5. Conditions (where applicable)

5.1 course delivery	Room with multimedia equipment (video projector, smart board)
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5.2 conducting the seminar/laboratory	-
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## 6. Learning outcomes

<b>Knowledge</b>	<p>R1. Demonstrate familiarity with research methodology in the research field and related areas and specific methods in the main research field</p> <p>R2. Demonstrate understanding of the principles and strategies of effective scientific communication, including the ability to tailor messages to diverse audiences and platforms. They will be familiar with the conventions of academic writing, publishing processes, and the use of various communication tools in disseminating research findings.</p>
<b>Skills</b>	<p>R1: Demonstrate the ability to complete the independent research process within given time frames:</p> <p>b) Select appropriate research methodology and methods from the wide variety of approaches</p> <p>c) Identify, locate, and collect sufficient body of evidence/data</p> <p>d) Analyze and interpret findings/evidence</p> <p>e) Draw appropriate conclusions; write about research in the field using clear and effective written expression of evidence-based analytical reasoning and successfully defend the research in front of a panel of experts.</p> <p>R2. Demonstrate the capacity in various contexts to present and discuss research findings with the scientific community using clear and effective oral expression of evidence-based, analytical reasoning as well as to adapt the discussion depending on varied audience.</p> <p>R2. Be able to clearly articulate complex ideas and research results both orally and in writing, create well-structured scientific documents, and present their work at conferences or in public forums. Demonstrate proficiency in using digital media and visual representations to enhance the impact of their communication</p>
<b>Responsibility and autonomy</b>	<p>R1. Demonstrate ability to learn, adapt and work in varied interdisciplinary and multi-national environments so as to analyse findings and perspectives found in other disciplines that contribute to greater understanding in their field.</p> <p>R2. Demonstrate initiative in fostering dialogue within interdisciplinary teams and the public, acting as ambassadors for science in society.</p>

## 7. Contents

8.1 Course	Methods	Observations
1. Introduction to data analysis in the social sciences: Key concepts, the role of the data, types of statistical analyses and context for application. An introduction to bibliometric analysis to review statistical methods by research field.	Lecture, explanation, conversation	4 ore
2. Segmentation analysis as data mining. Applications on data specific to each research field. Identifying relevant	Lecture, explanation, conversation	4 ore

official data for each PhD domain, aligned with the PhD students' background.		
3. Regression analysis – from linear to non-linear models. Applications on students' datasets.	Lecture, explanation, conversation	4 ore
4. Logistic regression and other classification models. Applications on students' datasets.	Lecture, explanation, conversation	4 ore
5. Multilevel regression models.		4 ore
6. Working with latent constructs: data reduction through factor analysis, principal component analysis and structural equation modeling.		4 ore

#### References:

- Lecture notes, datasets and scripts provided by the instructor
- Druică, E., Musso, F., & Ianole-Călin, R. (2020). Optimism bias during the COVID-19 pandemic: Empirical evidence from Romania and Italy. *Games, 11*(3), 39.
- Druică, E., Ianole-Călin, R., & Puiu, A. I. (2023). When less is more: Understanding the adoption of a minimalist lifestyle using the theory of planned behavior. *Mathematics, 11*(3), 696.
- Ianole-Calin, R., Hubona, G., Druica, E., & Basu, C. (2021). Understanding sources of financial well-being in Romania: A prerequisite for transformative financial services. *Journal of Services Marketing, 35*(2), 152-168.
- Ibrahim, F., Druică, E., Musso, F., Krejčová, K., Sheveleva, M. S., Herzberg, P. Y., & Karl, J. A. (2025). Cross-cultural validation and standardization of the Impostor-Profile 30. *Current Psychology, 44*(11), 9987-10000.
- Vălsan, C., & Druică, E. (2020). Corporate performance and economic convergence between Europe and the US: A cluster analysis along industry lines. *Mathematics, 8*(3), 451.
- Vălsan, C., Goschin, Z., & Druică, E. (2023). The measurement of social capital in America: A reassessment. *Social Indicators Research, 165*(1), 135-161.
- Vălsan, C., Druică, E., Goschin, Z., & Ianole-Călin, R. (2024). The perception of economic growth and the Romanian "Mioritic Syndrome". *Journal of the Knowledge Economy, 15*(1), 3718-3739.
- Other research papers identified as relevant depending on the background of the doctorate students selected to attend the classes

#### 8. Correlating the content of the discipline with the expectations of representatives of the epistemic community, professional associations and representative employers in the field related to the program

The course content includes modern methods of statistical analysis applied to real-world contexts, reflecting the growing need for data-driven decision-making and the integration of analytical tools (e.g., regression analysis, structural equation modelling, and factor analysis) into evidence-based policy, organizational, and societal processes. These competencies are aligned with contemporary professional profiles such as data-driven analyst, research consultant, or policy advisor, while also corresponding to current scientific research trends across the social sciences.

Furthermore, the course content is consistent with the research directions promoted by the epistemic community, which emphasizes the rigorous use of quantitative methods in doctoral-level social science research. Its practical relevance has also been validated through consultation with academics, researchers, and practitioners experienced in data analysis, research methodology, and strategic decision-making across diverse social domains.

## 9. Assessment

Type of activity	Assessment criteria	Evaluation methods	Weight in the final grade
Course	<p><b>Quality of critical reflection on the presented statistical methods</b> The doctoral student's ability to understand, compare, and justify the use of different statistical methods in applied research contexts is assessed.</p>	Written paper (maximum 1000 words) in which the student argues the advantages and limitations of various statistical methods applied to the research specific to their doctoral topic.	20%
	<p><b>Capacity to integrate statistical methods into doctoral research projects</b> This evaluates how the doctoral student formulates hypotheses and justifies the choice of relevant statistical techniques within the research context selected for the examination.</p>	Individual oral presentation of a proposed research design, in which the student explains which statistical methods would be used and why.	80% (includes the default point)
Minimum performance standard	Assessment is finalized with the qualification <b>“pass”</b> or <b>“fail.”</b> The minimum performance standard is obtaining the “pass” qualification under conditions of academic integrity.		

Fill in date:  
16.10.2025

Holder of the course,

Professor PhD Elena Druică

Director ISDS-UB,  
Conf. Dr. Habil. Mihaela MATACHE